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APPLE

Scab caused by Venturia inaequalis.

Georgia: (Berry) Quite abundant this season in many small home orchards; practically no clean fruit being found. Where fruit is free from scab it will be found that the orchard was sprayed regularly. A large portion of the fruit from the mountainous section is diseased.

Michigan: (Coons) Disease started to be severe but was checked by a month of drought. The prospect is for a scab free year.

Missouri: (Reed) At Mountain Grove prevalent on Baldwin, Jonathan, York, Arkansas Black Twig and Northwestern Greening.

Montana: (Jennison) No scab east of Continental Divide. Only nominal amounts reported in principal apple growing districts west of Divide.

Oregon: (Owens) Not so severe as usual, even in unsprayed orchards, due to extremely dry season which affords unfavorable conditions for infection.

Blotch caused by Phyllosticta solitaria.

Arkansas: (Elliott) Very common and severe in all sections where proper spraying is not done. In eastern section early apples were almost all covered with blotch.

Georgia: (Berry) Early apples showed considerable blotch which reduces the market value considerably. A large proportion of fruit in unsprayed home orchards were infected.

Missouri: (Reed) Very common. Noted on Early Colton, Maiden Blush, White Pippin and Northwestern Greening at Mountain Grove, also on Northwestern Greening at Columbia.

Oklahoma: (Learn) Most prevalent disease this year. Very common in every orchard about Stillwater, but no reports have been received from over the state.

South Carolina: (Seal) Frequently found on leaves, but seldom on fruit so far.

Cedar Rust caused by Gymnosporangium Juniperi-virginianae.

Arkansas: (Elliott) Especially severe in southwestern part of state where apples are grown.

Georgia: (Berry) "Rust did not seem to affect the commercial varieties of apples this year but appeared principally on ornamental and crab varieties.

In no case was the damage severe. The telial state on the red cedar was very plentiful this season, trees remote from orchards often showing hundreds of galls."

Bitter Rot caused by Glomerella cingulata.

Georgia: (Berry) First appeared about May 15, but because of dryness developed slowly. Only a small percentage of crop destroyed.

Missouri: (Reed) Found only on Bismark and another unidentified variety at Mountain Grove.

South Carolina: (Seal) Showing on winter varieties at this stage. General losses may be expected.

Fire Blight caused by Bacillus amylovorus.

Arkansas: (Elliott) About 10% loss in the southern part of the state.

Georgia: (Berry) The spring weather, rather cool and wet, seemed to favor the disease which appeared shortly after the new shoots began growth. It is estimated that the crop was reduced 50% on account of this disease.

Montana: (Jennison) Small amount of twig blight in nearly all apple orchards visited in the south central part of the state.

Oklahoma: (Learn) Apparently not so common as last year.

Pennsylvania: (Orton) Very prevalent over entire state on certain varieties.

Winter Injury.

Michigan: (Coons) Everywhere on trees growing in exposed locations.

Powdery Mildew caused by Podosphaera leucotricha.

New Mexico: (Werkenthin) Reported from Lincoln and Otero Counties; quite common in mountain districts. Loss not great.

Oregon: (Owens) Quite prevalent early in the season but is not so noticeable now, probably due to extremely dry weather.

Other Diseases.

New Mexico: (Werkenthin) Most apple trees show some physiological disease due to gypsum or soil exhaustion. In Pecos Valley and other parts of the

state this is particularly true. People in Luna County fail to keep apple trees alive for more than three to four years due to some root rot.

BARLEY

Stripe caused by Helminthosporium gramineum.

Colorado: (Robbins) Common but not especially serious.

Illinois: (Anderson) Present in practically all barley fields examined. No great damage evident and frequently rather scarce.

Iowa: (Melhus) Prevalent but not equal in amount in all fields. Varied from a trace to 20%; seems more severe in southern two-thirds of state.

Minnesota: (Bisby) Widely distributed; in some cases caused serious injury.

Montana: (Jennison) More or less found present on barley everywhere crop is grown. In only a few instances was the systemic effect caused by this disease found.

New York: (Gregory) Found in fifteen counties.

North Dakota: (Bolley) Apparently not so common in fields in this vicinity as in previous years. Have seen only a few well marked specimens.

Vermont: (Lutman) Has only been found at Grand Isle and at Burlington in scattering amounts. No serious losses.

Wisconsin: (Vaughan) General throughout state. Most severe in southern, lake shore and northern counties. Less severe in central part of state. Infected plants run from a trace to over 50%. Seed introduction a big factor in amount of stripe in new sections. Proper seed treatment is effective in controlling disease.

Loose Smut caused by Ustilago nuda.

Illinois: (Anderson) Very abundant. Some fields as high as 20%; average 2-5%.

Iowa: (Melhus) Common, and up to 5%.

Kansas: (Melchers) Loose smut is the only barley disease of economic importance in Kansas this year. Wherever the crop is grown loose smut has been reported. Losses vary from a trace to 5%, average loss probably 1.5 to 2%.

Minnesota: (Bisby) Common throughout the state.

Montana: (Jennison) As high as 3% reduction in yield recorded in several instances. Estimated average of damage 10%.

New York: (Gregory) Loose smut was found in twenty of the thirty-two counties inspected, six of these counties showing as high as 5% or more infection, the average for the twenty counties being 2% with a variation of 0 to 10%.

North Dakota: (Bolley) About the same amount as usual. Treatment becoming more general.

Vermont: (Lutman) Varying in amounts from .1 to 5%.

Wisconsin: (Vaughan) Widely distributed throughout state but usually occurring in minor amounts.

Covered Smut caused by Ustilago hordei.

Iowa: (Melhus) Common but not running very high; never over 2%. Usually only a trace.

Minnesota: (Bisby) Reported from most counties. Often causing a large percentage of injury.

New York: (Gregory) Covered smut found present in twenty counties, the average being 1%, three counties showing more than 5% infection. Smut varied from 0 to 15%.

North Dakota: (Bolley) Not commonly seen.

Vermont: (Lutman) Varying in amounts from .1 to 5%.

Wisconsin: (Vaughan) Generally present in untreated fields, varying from 0 to 15%.

Leaf Rust caused by Puccinia anomala (=P. simplex).

Iowa: (Melhus) Slight amount present.

Minnesota: (Bisby) Not serious.

Montana: (Jennison) Recorded in several fields of barley in south central Montana. Damage negligible.

New York: (Gregory) Found in seven counties, varying from 0 to 25% with an average of 5%.

Vermont: (Lutman) Very slight infection.

Wisconsin: (Vaughan) General but of small importance.

Stem Rust caused by Puccinia graminis.

Illinois: (Anderson) In the northern section of the state fields frequently found showing 100% infection. It is doubtful if losses will be severe on

account of lateness of appearance. Usually fields show from 1 to 5% rust.

Iowa: (Melhus) Nominal only.

Minnesota: (Bisby) Rare.

New York: (Gregory) A trace found only in one county.

North Dakota: (Bolley) Only scattering pustules of Puccinia graminis have been seen in this region. Coming too late to do injury.

Vermont: (Lutman) None seen in any of the fields examined.

Wisconsin: (Vaughan) Locally severe in a few cases, these mostly in the vicinity of barberry bushes.

Other Diseases.

Montana: (Jennison) Blight of axillary region of barley leaves first noted by Mr. C. S. Reddy. The general appearance of the lesions lead one to believe that the causal organism is bacterial. The infected portions of the leaves are very much discolored and in fact quite black in color. In some cases the lesions were somewhat water-soaked in appearance. Distal portions of leaves thus infected were yellowed and dying. This disease was found in a single field of "purple hulled" variety.

BEAN

Anthracnose caused by Colletotrichum lindemuthianum.

New York, Schuyler County: (Chupp, July 24.) Seventeen bean fields were visited in various parts of the county. In only three fields were the beans injured by anthracnose, in one field numerous cankers were present on the stems, the other two fields exhibited mostly leaf infection. Evidently infected seed had been planted but dry weather held the fungus in check.

Tennessee: (Essary) Very common but has done little damage so far.

West Virginia: (Giddings) Disease spreading and has been reported as severe from Raleigh County.

Bacterial Blight caused by Bacterium phaseoli.

Arizona: (Brown) Disease reported, but loss is very slight.

Colorado: (Robbins) Reports and observations indicate serious losses in the chief bean growing sections of the state.

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Georgia: (Berry) Rather severe in Thomas County.

Montana: (Jennison) Responsible for the greatest amount of damage done to beans in the state, particularly severe on wax, also affects many shell varieties. The Great Northern, a shell bean which is grown most extensively here, has never been found infected with blight. Too early yet to estimate reduction in yield. An infection of the stems has been noted in other years and is prevalent this season. Lesions are formed most often at axil of the branch which so weakens the stem or branch that breaking over occurs with the resultant death of the plant.

New York, Schuyler County: (Chupp, July 24.) Observed only in rare cases and then only on a few leaves.

West Virginia: (Giddings) Has not been noted as severe.

Dry Rot caused by *Fusarium martii phaseoli*.

New York, Schuyler County: (Chupp, July 24.) By far the most damage done to beans in the county was by this disease. More than half of the farms showed the presence of dry root rot in one or two fields; almost impossible to find healthy plant. In others 1 to 5% loss was common. The average of the seventeen fields was over 10%.

CORN

Root and Stalk Rots.

The Plant Disease Survey is cooperating with the Office of Cereal Investigations in the survey of the root and stalk rots of corn throughout the corn belt states. The central station for the investigations of these rots is the pathological laboratories of the Department of Botany of Purdue University Agricultural Experiment Station, Lafayette, Indiana, with Dr. G. N. Hoffer in charge.

It is very much desired that all collaborators who observe root and stalk rotted plants in corn fields should send in representative specimens to the central station at Lafayette, Indiana, where cultures of organisms are being isolated and tested for pathogenicity. Blanks for this survey will be furnished to all interested parties upon request.

The field men of the Plant Disease Survey are Dr. J. C. Gilman, Prof. H. S. Stahl and Dr. C. H. Otis. These men went into the southern states during the middle of June and are working northwards. Dr. W. H. Tisdale, who is studying the *Physoderma* disease, has also contributed specimens.

Dr. Hoffer has the following to report:

"Probably the most important pathogens responsible for the rotting of the roots and stalks of corn plants are species of Fusarium. They may cause primary infections, having been harbored by infested seed, or they may cause secondary rots in infested soil during the latter part of the growing season.

"Characteristic of primary infections are blighted or stunted plants irregularly distributed in a field. The secondary infections of the roots may retard the growth

of the corn plants during the latter part of the season. If the rotting is severe the plant may become a "downstalk". Where "downstalks" or broken stalks are irregularly distributed in a field, root and stalk rots should be suspected, although the work of root and stalk borers should not be discounted.

"Approximately three hundred and fifty collections representing as many different fields, have been sent into the laboratory this season and many organisms have been isolated. This report is based entirely upon those cultures which have already been tested for pathogenicity and which belong to the genus Fusarium. Unless otherwise mentioned, yellow and white varieties of corn are referred to.

"Root rots have been found by these men in all of the southern states visited by the Survey men. It is practically impossible to estimate the damage done by these rots because the affected plants are not necessarily killed by the pathogens,- many live in spite of them. The plants may remain stunted or may develop slowly into barren, or nubbin bearing stalks by the end of the growing season. In all states the work of root and stalk insects has to be considered, although root rots have been found to be abundantly present in plants where no insect troubles of any kind occur.

"At the time when the men entered the field primary infections, as well as secondary root rotting were found. The following states have been visited and collections made:

Florida and Mississippi: Dr. W. H. Tisdale collected infected, stunted corn plants at Bluff Springs, Florida, Agricultural College and Greenville, Mississippi, during the period from June 3-13.

Dr. C. H. Otis who collected during the latter part of June found root rots relatively common at Starkeville, Canton, Magnolia, Scott, Greenville, Mississippi. Root rots have been noticed prior to this year, and some local estimates had been made that they were responsible for 15-30% loss at times.

Louisiana: Root rots of corn seemed to be uncommon during the middle of June in Louisiana, according to Dr. Otis. From Alexandria several collections were made from fields where infested seed had probably been planted. Davis Prolific corn seemed to be particularly susceptible.

Tennessee: Mr. F. P. McWhorter has sent in sweet corn from this state affected with root rot. Fields of yellow corn were noted that had poor stand and many stunted plants.

Georgia: Dr. J. C. Gilman collected material in Georgia during latter part of June. Root rots were found in all parts of state visited. At Echols, Georgia, several severe cases were found, in some fields 15-20% of the plants were stunted and in some, as high as 15% of the plants were down. At Valdosta, fields were found with 10 to 15% of the plants root rotted. At Quitman, root rots seemed to be most severe. Entire fields were found that were completely affected. During this season the chief effect of root rots was the stunting of the plants.

South Carolina: From Clemson College, Dr. Gilman sent a few plants showing root and stalk rot. The corn fields examined showed only small numbers of root rotted plants at the time examined, July 3-5. These plants have yielded cultures of pathogens identical with those from Georgia.

of the corn plants during the [illegible] season [illegible]. If the rotting is severe the plant may become [illegible] or [illegible] and irregularly [illegible] in a field, [illegible] root rot [illegible] or [illegible], although the [illegible] not [illegible].

[illegible] three hundred and fifty collections [illegible] been sent into the laboratory [illegible]. This [illegible] pathogenicity [illegible] belong to the genus [illegible].

"Root rots have been found [illegible] southern states [illegible] by [illegible] Harvey [illegible]. It is practically [illegible] rots [illegible] the affected plants [illegible] live in spite of them. The [illegible] bearing [illegible] the [illegible] of root and stalk [illegible] found to be constantly present [illegible].

"At the [illegible] time [illegible] entered the [illegible] root rotting [illegible]. The following [illegible] visited [illegible].

Mississippi. Dr. [illegible] collected [illegible] plants at [illegible], Agricultural College [illegible] Mississippi, during the [illegible] from [illegible].
Dr. C. H. Otis who collected [illegible] root rots relatively common at [illegible] Mississippi. Root rots have been noticed [illegible] an estimate has been made that [illegible] times.

Louisiana. Root rots [illegible] the middle of [illegible] in Louisiana, [illegible] to Dr. Otis. From [illegible] several [illegible] were made [illegible] infected seed [illegible] probably [illegible] Prolific [illegible] susceptible.

Tennessee. Dr. [illegible] sent [illegible] corn from this state [illegible] with [illegible] than [illegible].

Kentucky. Dr. [illegible] collected material in [illegible] of [illegible] root rots [illegible] parts of state [illegible] this [illegible] plants [illegible] number [illegible] fields were found [illegible] rotten. At [illegible], root rot [illegible]. Entire [illegible] found that [illegible] affected. [illegible] root rots [illegible] of the plants.

[illegible] from Clemson College [illegible] sent [illegible] rots. The corn [illegible] at the time [illegible]. This [illegible] of pathogen identical [illegible].

Texas, Oklahoma, Kansas: Prof. H. S. Stahl surveyed fields in Texas, Oklahoma and Kansas. Specimens sent in from these states all showed presence of root and stalk rot pathogens. At no place visited were they general in occurrence during latter part of June. In isolated cases where infested seed evidently had been planted the fields would have large numbers of stunted plants.

Indiana: Root rots are very common in Indiana. During the early part of the summer seedling blight was found in several of the southern counties. Seventy five percent of the plants in a few fields were seriously affected. Primary infections have been found in most cases, and the wide occurrence of the root rots at this time is very probably due to large amounts of infested seed having been planted.

Wisconsin: Fields in southern Wisconsin have been observed where the stand of corn was very irregular. Specimens taken from them show the presence of pathogens. The fields most affected have been planted with seed obtained from states farther south. Where home grown seed was obtainable and planted relatively few primary infections could be noted.

Illinois: Collections of plants showing secondary infections, as well as primary, were collected at Bloomington on June 16. The plants were about three feet high and were beginning to turn yellow and the lower leaves were blighting. The trouble was common in the fields visited."

It is hoped that interest in the root, stalk and ear rots may be stimulated and that the various collaborators will find it possible to send to the central station many collections of suspected plants for study. It is planned to establish substations in various parts of the corn belt where the relative importance of these diseases as ascertained by this survey, may indicate.

Later in the season ear rots of corn will be found. These also come within these investigations and specimens should be sent to the central station for record and study.

Address all collections to Geo. N. Hoffer, Agent, Purdue University Agricultural Experiment Station, Lafayette, Indiana.

OATS

Loose and Covered Smuts caused by Ustilago avenae and U. levis.

Colororado: (Robbins) The usual amount of oat smut is prevalent this season. I would estimate a loss of at least 2%. Seed treatment is commonly practiced and with more success with oats than with wheat.

Kansas: (Melchers) Smuts, with the loose smut predominating, are very prevalent throughout the state. Losses as reported to date vary from 1 to 30% with a mean of 9 or 10%. Dry formaldehyde seed treatment is reported as giving uniformly good results. More extensive work will be taken up in the future with this treatment.

Massachusetts: (Osmun) Present in every field, varying from 5 to 10% and the average is about 7 to 8%.

[illegible], [illegible] ... it was collected ... [illegible]

[illegible] ... was very common in Indiana. [illegible] ... found in several ... [illegible]

[illegible] Fields in a ... [illegible] corn was very irregular. [illegible] ... from them that the presence of ... [illegible] The fields ... have been planted with seed infected ... [illegible]

Illin[illegible] [illegible] ... [illegible]

It is hoped that ... [illegible] ... It is planned ... [illegible] ... in the ... will be found. ... [illegible] should be sent to the central station for record and study.

[illegible] ... Purdue University [illegible] ... Indiana.

[illegible]

[illegible] ... by [illegible]

[illegible] ... (Dry rot) ... [illegible] ... [illegible] ... seed treatment ... [illegible]

[illegible] ... it is the most prevalent ... throughout the state. ... [illegible] ... with a mean of ... [illegible] ... seed treatment ... [illegible] ... in the future ... [illegible]

[illegible] ... Present in every field, varying from 1 to 10% and the average is about [illegible].

Montana: (Jennison) Records show a wide-spread occurrence of these smuts. Estimate average loss more than 5%. In one field about 40% of the heads were found destroyed by these smuts. Of this apparently about 35% were destroyed by loose smut.

New York: (Gregory) Smut was found present in twenty-nine of the forty-five counties inspected, varying from 0 to 40% with an average of 3.3%. Nineteen counties showed fields with 10% or more of smut while ten counties averaged over 5%.

Stem Rust caused by Puccinia graminis.

Kansas: (Melchers) Not reported to date.

Massachusetts: (Osmun) From a trace to 10%. Not so severe as usual.

New York: (Gregory) Found only in three counties.

Leaf Rust caused by Puccinia coronata.

New York: (Gregory) Reported from thirteen counties, varying from 0 to 80%, average 10%.

Bacterial Blights.

Montana: (Jennison) Typical halo blight lesions apparently caused by Bacterium avenae was found on the majority of plants in a single field of oats. Seed from North Dakota and untreated. No blight found in adjacent field where seed had been treated.

The occurrence of what appears to be another bacterial disease of oat leaves was noted in several localities. The presence of dry bacterial ooze was noted in several cases.

PEA

Blight caused by Septoria pisi.

Montana: (Jennison) Prevalent and doing much damage.

Wisconsin: (Vaughan) More abundant than Ascochyta. Damage slight this season.

Bacterial Blight caused by Bacterium pisi Sackett.

Montana: (Jennison) This is the most serious disease of peas in Montana. It occurs in all pea growing sections. The percentage of plants having infect-

ed leaves, stems and sometimes pods is often very high, depending on variety, weather conditions, etc. The early "short straw" varieties in general appear to be most susceptible. Of these Alaska is the most susceptible. It is estimated that in one field of Alaskas there is 95% loss. This is an exceptional case however, as average losses will be considerably less than 5%.

PEACH

Brown Rot caused by *Sclerotinia cinerea*.

Georgia: (Market inspection at Chicago, Cincinnati, New York and Pittsburgh, 32 cars, July 10 - August 2.) Brown rot present in all cars in every degree, ranging from spots to surface of peach. A conservative estimate of the average infection for the 32 cars would be 20%. The heaviest infection was noted in 5 cars inspected at New York which averaged at least 75%.

Louisiana: (Market inspection at Chicago, 1 car, July 22.) This car contained 15% slight brown rot, 20% bad decay.

Maryland: (Market inspection at New York, 1 car, August 2.) The receiver of this car refused the shipment because of 98% infection from brown rot.

Texas: (Market inspection at Chicago, 1 car, July 15.) Infection in top layer of crates 15%, second layer 10%, the balance of stock being spotted with this decay.

Scab caused by *Cladosporium carpophilum*.

Georgia: (Market inspection at Chicago, Cincinnati, New York and Pittsburgh, 9 cars, July 10-19.) In most of cars only an occasional scabby peach was found but in one car 18% scab was noted which affected as much as one-fourth of peach. In another car 5% of peaches were badly spotted with scab.

PLUM

Brown Rot caused by *Sclerotinia cinerea*.

Connecticut: (Clinton) Probably bad where there is any fruit.

Kansas: (Melchers) Found almost universally, especially in small orchards where trees are unsprayed. In such orchards the entire crop is often rendered useless. Infection usually follows curculio injury.

Massachusetts: (Osmun) About 2% loss.

New York: (Hesler) The cool weather up to July made it comparatively rare.

Ohio: (Selby) Has developed freely on fruit in all districts visited.

Pennsylvania: (Orton) Serious in Berks and Bucks Counties, where it has caused about 20% injury.

Pockets caused by *Exoascus pruni*.

Iowa: (Melhus) Rare this year.

Kansas: (Melchers) When reported losses have varied from 50 to 95% of total yield.

Minnesota: (Bisby) Disease appeared in rather more than average abundance this spring. We have reports from all regions of the state except in the most southern.

Ohio: (Selby) Very little development. Winter injury has seemed to destroy infection to some extent as is the case with leaf curl.

Black Spot caused by *Bacterium pruni*.

Illinois: (Anderson) Present to some extent in all plum orchards south of Champaign.

Texas: (Taubenhaus) This is the only disease noticed on plums this year; injury about 2%.

Leaf Blight caused by *Coccomyces prunophorae* (=*Cylindrosporium padi*).

Massachusetts: (Osmun) Has caused severe injury to Japanese varieties.

Minnesota: (Bisby) Reported from the southern part of the state but is apparently not serious.

New York: (Chupp) Reported from Wayne and Tompkins Counties.

Ohio: (Selby) Has developed to about normal extent; general over the state, causing more or less leaf dropping.

POTATO

Late Blight caused by *Phytophthora infestans*.

Arkansas: (Elliott) Reported first about June 1 at Hope. Has occurred in various portions of the state this season. Disease general on tops but very little on tubers. It is estimated that the crop has been reduced 40 to

50%. The weather was cold and wet up to June when it turned warmer, becoming hot and dry after the middle of the month. Weather conditions in general were very favorable for an epidemic. The hot, dry weather that followed the killing of the tops probably prevented injury to tubers.

Connecticut: (Clinton) First found July 17 at Orange, later July 19 at Mt. Carmel on tops from blighted tubers. Has not been seen elsewhere and has caused no trouble yet but recent rains may favor its development in green fields.

Maine: (Morse) "The first report of late blight in Maine so far as I know this year was the report of Dr. Schultz where he had planted diseased tubers intentionally. Blight was first recorded at Presque Isle on July 5. I am not sure of the date of planting but probably some time the latter part of May. The first field record was made in Presque Isle by Mr. John L. Scribner, County Agent, on July 17. Mr. Ramsey spent all of last week in Aroostook County, in the northern part, in company with Mr. Scribner. He reports finding late blight in 15 or more fields and in some cases it was quite far advanced. He also reports finding it at Houlton, in the southern part of the county. According to his opinion, if the wet weather conditions continue, late blight will do considerable damage in Aroostook County this year, except where the fields are thoroughly sprayed. As last year, the chief difficulty appears to be the failure to begin spraying early enough. Practically everyone of these growers where they found blight makes a practice of spraying but it is a question of need of improving the methods rather than an appreciation of the fact that spraying is necessary. The weather for the past week clearer and much warmer so, consequently, has not been so favorable for blight as it was during the two preceding weeks, or even during the preceding month." - August 1.

Massachusetts: (Osmun) On August 8 Mr. Doran found the disease prevalent in Barnstable County where it is just getting started. About 10% of the vines affected, however. It is probably present on the Islands of Nantucket and Marthas Vineyard but an investigation has not yet been made.

New Hampshire: (Butler) A few cases reported from Strafford County and observed during the latter half of July.

Pennsylvania: (Orton) Slight infection has been found on early potatoes in Fayette, Somerset and Chester Counties, July 15 to 29. Apparently prevalent locally but not doing serious damage. No blight yet found on late varieties.

Vermont: (Lutman) Noted first at Randolph and Rochester about July 17 and was found during the next few days at Bennington, Manchester, Bristol, Rutland, St. Albans and Burlington. As yet no serious damage has been done as the very hot weather of July 20 to 23 checked the spread.

West Virginia: (Giddings) First found August 1. Not very serious at this time as it was last year. However, the crops are somewhat later and weather conditions are becoming favorable for rapid spread.

Wisconsin: (Wright, August 13.) Just discovered in two fields in Barron County. Plenty of fungus present to start an epidemic if weather favors.

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Early Blight caused by Alternaria solani.

Early blight has been reported as widespread in practically all early and late potato sections but the damage is reported as being very slight. In no state is the disease of much consequence. Early potatoes seem to be most affected at this time.

Mosaic (Cause unknown).

Arkansas: (Elliott) Disease common and general in its occurrence. First reported about June 1.

Massachusetts: (Osmun) First noted about July 1 at Amherst. General throughout the state, affecting from 1 to 90% of the vines. It is possible that the crop will be reduced 5% on account of the disease. It is most severe as a rule where locally grown seed were used. Many fields planted in Maine seed are by no means free from mosaic for as high as 30% has been found in such fields.

New Hampshire: (Butler) A few cases of mosaic seen in most fields examined.

Vermont: (Lutman) Disease very common on all varieties in amounts ranging from 1 to 75% and will average even in fairly good fields 10 to 15%. It seems to be especially bad in garden and school garden lots. Fields at Randolph comparatively free.

Black-leg caused by Bacillus phytophthorus.

Connecticut: (Clinton) A little seen in a number of fields this season.

Iowa: (Melhus) A trace in the southern part of the state. Severe in Mitchell County on early varieties.

Minnesota: (Bisby) A considerable amount reported following a wet period in late May and specimens are still coming in (August 1). Occurs over the entire state.

Montana: (Jennison) In one of the principal potato growing regions of the state. Disease has been found causing an average reduction in yield of 5 to 10%. In one field 35% of the plants were seriously affected. In other districts visited scattering affected plants were observed.

North Dakota: (Bolley) Unusually common in the Red River Valley this year due to gradual increase through planting of unselected seed and possible accumulation of infected material in land where proper rotation is not practiced.

Pennsylvania: (Orton) Apparently less prevalent than usual.

Wisconsin: (Vaughan) Very widely distributed, especially in northern potato sections. Damage varies from 0 to 15%.

Curly Dwarf and Leaf Roll.

Iowa: (Melhus) Prevalent but less common than last year.

Minnesota: (Bisby) Occurred not uncommonly, especially in certain types of soil.

Montana: (Jennison) Occasional plant in several potato fields found affected with one of these two diseases.

Pennsylvania: (Orton) Prevalent locally.

Wisconsin: (Vaughan) Leaf roll not common. Curly dwarf scattering. In some fields nearly half of the plants may be affected.

Fusarium Wilt caused by *Fusarium oxysporum*.

Minnesota: (Bisby) Not yet found to any extent.

Montana: (Jennison) Not noted yet this season.

Nevada: (Frandsen) Some disease has been found this year, especially in Churchill County where dry rot was common last year.

New York: (Chupp) Most common disease at the present time is wilt probably caused by *Fusarium* sp. Everywhere losses are reported. From all indications it is more prevalent than during the past season.

North Dakota: (Bolley) Rather common.

Ohio: (Selby) Disease has not yet shown except of local developments.

Pennsylvania: (Orton) Generally prevalent throughout the state. The loss in ten counties recently visited will average at least 10%.

West Virginia: (Giddings) Quite destructive. Has been noted particularly in Monongalia, Wood and Mason Counties.

Stem Rot caused by *Rhizoctonia solani*.

Connecticut: (Clinton) More conspicuous than usual due to wet weather in May and early June. Not especially serious however.

Kansas: (Melchers) Very prevalent, causing from 1 to 20% loss with an average of about 8%. Disease apparently brought in with northern seed.

Massachusetts: (Osmun) First noted July 8. The amount of stem injury is relatively small but judging from the frequency with which sclerotia are found in newly dug tubers it is likely that there has been considerable injury which was not apparent above ground.

Minnesota: (Bisby) A large amount of rotting of stems was noted, especially early in the season. The seed planted brought abundant sclerotia of the fungus.

Montana: (Jennison) No significant damage thus far this season.

Nevada: (Frandsen) Disease common. Records have been received from five counties.

New York: (Chupp) Disease common. In many fields sprouts have been killed so that there are uneven stands.

North Dakota: (Bolley) Common as usual but not particularly destructive.

Pennsylvania: (Orton) Not as serious as some years. Have seen as high as 10 to 15% stem infection.

Wisconsin: (Vaughan) Present in all sections. Stem lesions found on as high as 90% of plants. Many cases of poor stand due to this disease. Little tops, aerial tubers and enlarged nodes are common in some fields, especially early varieties.

Tip Burn

Iowa: (Melhus) Very prevalent on early varieties, also beginning on late vines. This is one of the most serious troubles of potatoes.

Minnesota: (Bisby) Common, especially in city gardens.

New York: (Chupp) Causing more damage than usual. It has been reported as very serious in a number of counties.

Ohio: (Selby) Tip burn under general drought conditions during July and the latter half of June has caused unusual losses. This condition has generally been terminated by showers during the week of July 21-27 and the outlook is very satisfactory in northern potato growing districts. Losses from tip burn at times probably associated with early blight have amounted to an average of 50% of the crop for the early potato districts.

Pennsylvania: (Orton) The yield of early potatoes is reduced by tip burn at least 50% in the state, 95% of the plants being affected. Sprayed plots show comparatively little. The yield of early potatoes will apparently not be much more than 30% of a full crop.

West Virginia: (Giddings) Extremely severe this season. The early crop has suffered most. We have some records of apparently good control by the use of mulch. This has been aggravated very much by insect injury and has doubtless been confused somewhat with other diseases.

Wisconsin: (Vaughan) Very bad, especially in the southern part of the state. Early varieties most affected. Aggravated by insect injury.

Stem Blight caused by *Phoma* sp.

Massachusetts: (Osmun) Potatoes are in bad shape throughout the state. Many fields will be practically a total failure. A number of conditions have probably combined to bring about this trouble however. Phoma and typical Phoma lesions are found on stems both above and below the surface of the ground and also on the stolons in almost every field where the vines have died down.

Vermont: (Lutman) Potato plants probably affected with Phoma have been found in the field and have been received in the laboratory from Bennington.

RYE

Ergot caused by *Claviceps purpurea*.

Massachusetts: (Osmun) Rarely occurs.

Pennsylvania: (Orton) Very local in distribution. Several counties report that it does not occur.

Smut caused by *Urocystis occulta*.

Massachusetts: (Osmun) Has been observed only rarely this season.

Pennsylvania: (Orton) Never severe so far as is known and this year it is no more prevalent than usual. Heaviest infection reported 5%. Most reports show slight infection only, being less than .5%.

Leaf Rust caused by *Puccinia dispersa*.

New York: (Gregory) Leaf rust from a trace to 50% was found in all of the six counties inspected.

Pennsylvania: (Orton) Generally prevalent throughout state but not apparently doing much harm. Leaf area infection reported 50 to 100%. Most abundant in Lycoming County.

Stem Rust caused by *Puccinia graminis*.

New York: (Gregory) In two fields in Rennselaer County 5 and 40% stem rust was found; one field in Sullivan County showing 50%.

WATERMELON

Stem End Rot caused by Diplodia sp.

Florida: (Market inspection at Chicago and Pittsburgh, 2 cars, July 6-22.) Infection for the two cars 10 and 15% respectively.

Georgia: (Market inspection at Chicago, Des Moines, New York and Pittsburgh, 22 cars, July 6 - August 5.) Average infection 18%, a few cars running as high as 40%.

Indiana: (Market inspection at Chicago and Pittsburgh, 7 cars, July 9-19.) Average infection about 8%, this decay always heavier in lower part of car.

Virginia: (Market inspection at New York, 1 car, July 12.) Forty percent of melons with stem end rot varying from slight infection to half of melon affected.

Anthracnose caused by Colletotrichum lagenarium.

Florida: (Market inspection at Chicago and Pittsburgh, 2 cars, July 6 & 22.) Anthracnose present in spots on 10% of stock in one car and 35% in the other car and ranging from 2 to 10 spots on some melons to one-tenth the surface of others.

Georgia: (Market inspection at Chicago, New York and Pittsburgh, 20 cars, July 6-August 5.) Average infection 20%, varying from slight infection in most cars to 9% decay from anthracnose. In some cars the infection covered three-fourths of affected melon.

Indiana: (Market inspection at Chicago and Pittsburgh, 3 cars, July 15-19.) One car contained only an occasional melon with anthracnose; the other two cars having 15 and 25% anthracnose respectively, in scattering pock marks.

Virginia: (Market inspection at New York, 1 car, July 12.) All of melons in car showing anthracnose, 42% being badly affected, the rest of stock slightly marked.

WHEAT

Bunt caused by Tilletia laevis and T. tritici.

Colorado: (Robbins) Most prevalent smut of cereals in the state. Found in most wheat growing sections. This year it has been noted in the best farming communities where at least 1% average loss is the result. As high as 3 and 4% losses have been reported from various parts. At present the losses are greater on winter wheat than on spring wheat.

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Massachusetts: (Osmun) About .5% loss, probably due mostly to Tilletia laevis.

Minnesota: (Bisby) Common everywhere on spring wheat. The proportion and distribution of the two species of Tilletia has not yet been fully determined.

Montana: (Jennison) Generally present, causing an average loss of 5 to 10%; as high as 25% has been recorded. Several good looking fields were reduced at least 10%. This disease is still probably the most widespread disease of winter wheat and occurs practically everywhere the crop is grown in the state. Tilletia laevis has been found to be the causal organism in several cases examined closely. Can not estimate damage done to spring wheat at this time.

New Mexico: (Werkenthin) Present in most fields which did not receive formaldehyde or copper sulphate treatment. About 30% is the grand average for all of the fields tabulated in which the seed was not treated. The average percentage of affected heads from untreated fields not above 2%.

New York: (Gregory) Traces of stinking smut evident in fourteen counties with an average of not over 0.5%.

Pennsylvania: (Orton) Locally present in small amounts. Not much educational work done on seed treatment of wheat, as bunt has never been known to be very abundant in Pennsylvania.

Loose Smut caused by Ustilago tritici.

Colorado: (Robbins) "There has always been a notion among farmers that loose smut does not occur in Colorado. This year it has been noted in all wheat growing sections with a possible loss of 2%."

Massachusetts: (Osmun) About 5% loss. Estimates based on careful counts in many fields.

Montana: (Jennison) Recorded in several districts visited to date. No fields found with more than 3%. In spring wheat the loss is less than 1%. The loss was probably not so great in winter wheat as in spring wheat.

New York: (Gregory) Loose smut was found present in twenty-four of the thirty-seven counties inspected, averaging about 1% with variation from 0 to 10%. Three of these counties showed as high as 3% or more.

Pennsylvania: (Orton) Somewhat more severe than usual. In fifteen counties the average infection was 3.24%. No attempt has been made to treat seed for loose smut.

Wisconsin: (Vaughan) Rather common and widely distributed but damage is small.

Leaf Rust caused by Puccinia triticina.

Colorado: (Robbins, July 15.) Widespread and abundant at this time. Has made its appearance within the last ten days.

Montana: (Jennison) Recorded in several districts but no appreciable losses have been noted.

New York: (Gregory) Found in twenty-four counties, varying from 0 to 100%.

Pennsylvania: (Orton) Generally prevalent throughout eastern half of state, where approximately 90 to 100% of the foliage was infected to the extent of 50 to 65% of the leaf area. Did not seem to be severe in the western half.

Wisconsin: (Vaughan) Abundant but does not seem to have prevented heads from filling.

Stem Rust caused by Puccinia graminis.

Illinois: (Anderson) Disease runs from 1 to 100% on spring wheat in the northern part of state. There is some damage in the region of Rock Island and in Winnebago and Lake Counties.

Minnesota: (Bisby) Developed to some extent on wheat in all parts of the state. It came so late however, that little damage was done.

New York: (Gregory) Stem rust found in two fields in Schuyler County, two fields in Onondaga, two fields in Tompkins, one in Oswego and one in Washington County, the infection in each case being 5%. In Sullivan County 25% infection was found in one field, while in Tioga County 50% stem rust was found.

Pennsylvania: (Orton) Not serious anywhere in state. Found locally. Most abundant in the southeast.

Wisconsin: (Vaughan) More or less in nearly all fields. Heavy infections locally. Most cases directly associated with occurrence of barberry.

Scab caused by Fusarium culmorum.

Minnesota: (Bisby) Quite widely distributed on spring wheat but did not cause any serious losses. Has not been serious in state since 1916.

Pennsylvania: (Orton) Quite destructive this year. Many reporters were in the field too late to observe it carefully. Some report as high as 15% of the heads infected and others as low as 1%. On the average the crop may have suffered 8% at least. First reported very serious in Blair County early in July. Wheat follows corn in most rotations.

Black Chaff.

Montana: (Jennison) Doing much damage in certain localities. In one district visited the week of August 4-10 fifty percent damage was found in all varieties of spring wheat.

Blast (Cause undetermined).

Montana: (Jennison) This name was suggested by Mr. C. S. Reddy and is descriptive of the symptoms as there is a general blighting or blasting of the plants. Lower internodes and nodes in many cases are discolored but otherwise show no signs of being infected. The heads are often noticeably short and light in weight and in many cases affected ears fail to fill. The disease is apparently of fungus origin. It was found doing the most damage to winter wheat but occurs on spring wheat also. Eighty-five to 90% infection has been noted, particularly on Turkey Red. Durham variety seems to be rather resistant. In a number of cases the grain harvested from badly infested fields was small and shriveled.